

CLAIMS

What is claimed is:

1. A lightweight vehicle body part including
an oblong profiled beam made of sheet steel, and
a light metal,
wherein
the beam has an open cross-section with a base and
two legs extending from said base; and
the beam has at least one free area which is
locally provided with a cast or sintered
reinforcement structure made of the light metal.
2. The lightweight part according to Claim 1, wherein
the reinforcement structure includes at least one
local thickening which is positioned at a strongly
loaded point of the sheet steel.
3. The lightweight part according to claim 1, wherein
the reinforcement structure includes multiple ribs
which are positioned essentially perpendicularly
to the sheet steel.
4. The lightweight part according to Claim 3, wherein
the ribs are connected to one another in crosses.
5. The lightweight part according to claim 1, wherein
the reinforcement structure is cast onto the sheet
steel or is cast into the sheet steel on only one
side.
6. The lightweight part according to claim 1, wherein
the reinforcement structure is connected to the
sheet steel in a form-fitting way.

7. The lightweight part according to Claim 1, wherein
both the base and the two legs of the beam are connected to the reinforcement structure.
8. The lightweight part according to Claim 6, wherein
flanges , onto which the reinforcement structure is cast, extend from the two legs.
9. The lightweight part according to Claim 7, wherein
flanges , onto which the reinforcement structure is cast, extend from the two legs.
10. The lightweight part according to Claim 8, wherein
the reinforcement structure is attached to the two flanges with the aid of attachment means.
11. The lightweight part according to Claim 9, wherein
the reinforcement structure is attached to the two flanges with the aid of attachment means.
12. The lightweight part according to Claim 8, wherein
the reinforcement structure is attached to the base of the beam with the aid of attachment means.
13. The lightweight part according to Claim 9, wherein
the reinforcement structure is attached to the base of the beam with the aid of attachment means.
14. The lightweight part according to claim 1, wherein
the reinforcement structure is held on the sheet steel through protrusions and/or depressions, particularly beads, implemented in the sheet steel.

15. The lightweight part according to claim 7, wherein the beam has a T-shaped cross section at at least one end of said beam.
16. The lightweight part according to claim 1, wherein the sheet steel has a thickness of less than 2 mm in at least some regions.
17. The lightweight part according to claim 1, wherein the sheet steel has a thickness of less than 1 mm in at least some regions.